

REMARKS

I. Formalities

Applicants note that the Examiner has not indicated whether the Formal Drawings filed on November 14, 2003 are accepted. Applicants request that that the Examiner acknowledge and approve the aforementioned Formal Drawings.

II. Status of the Application

By the present amendment claims 1, 10, 32, 103, and 119 have been amended without the incorporation of new matter. Claims 1-15, 17-39, 41-43, 45-51, 53-58 and 103-129 are all the claims pending in the application, with claims 1, 32, 103, and 119 being in independent form. Claims 1-15, 17-39, 41-43, 45-51, 53-58 and 103-129 have been rejected.

III. Claim Rejections - 35 U.S.C. § 102

The Examiner has rejected claims 1-3, 5-7, 9-13, 17, 23, 24, 26-29, 32-34, 37-39, 41-42, 51, 55-57, 103-105, 107, 109-112, 114, 116-121, 124-126, and 128-129 under 35 U.S.C. § 102(b) as being anticipated by Japanese Patent Publication No. 10-232196 to Ito *et al.* (hereinafter “Ito”). Applicants traverse this rejection for *at least* the reasons stated below.

According to the MPEP, “a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” MPEP § 2131. Applicants respectfully submit that claims 1-3, 5-7, 9-13, 17, 23, 24, 26-29, 32-34, 37-39, 41-42, 51, 55-57, 103-105, 107, 109-112, 114, 116-121, 124-126, and 128-129 positively recite limitations which are not disclosed (or suggested) by Ito.

Ito discloses a particle monitoring instrument comprising a means for measuring light scattered by a particle and a means for displaying a motion of the particle, during a certain fixed time span, as a locus of the scattered light. *See* paragraph 0021. Specifically, Ito discloses that the photodetector 14 measures the scattered light 21 resulting from the laser beam 13 being scattered by particles 20, every 5 seconds, during a certain fixed time span (i.e., a gate opening time of 100 ns). *See* paragraph 0024.

Further, Ito discloses that if the data processor 15 judges that the intensity of the scattered light received by photodetector 14 exceeds a predetermined value, the exposure time of photodetector 14 is prolonged to a longer fixed time span (i.e., a gate opening time of 200 ns). *See* paragraph 0025. As a result of this prolonged exposure time, Ito discloses that the motion of the particles during this certain fixed time span is displayed as a locus of scattered light on a display unit of the data processor 15. *See* paragraphs 0024-0025.

A. Independent Claim 1

Independent claim 1 requires (among other things):

an area detector which determines pixels that are simultaneously irradiated by said laser beam scattered by one of said particles, and that are located adjacent to each other... as a group.

The grounds of rejection allege that the data processor 15 disclosed in Ito, corresponds to “an area detector,” as recited in claim 1. Applicants respectfully disagree with the grounds of rejection.

Ito does not disclose an area detector, which determines as a group, pixels that are simultaneously irradiated by laser light scattered by a particle, and that are located adjacent to

each other, as required by claim 1. In contrast to the requirements of claim 1, Ito discloses that the data processor 15 monitors the laser beam light scattered by moving particles during a certain fixed time span (i.e., a gate opening time of 100 ns or 200 ns). Ito also discloses that when such laser beam light is scattered by moving particles, the scattered laser beam light is then irradiated onto pixels located on photodetector 14. Further, Ito discloses that when the pixels on which scattered laser beam light is irradiated during a certain fixed time span are grouped together, such grouped pixels form a locus which is in the shape of a line. *See e.g.*, locus 23 in Figure 1. Hence, Ito discloses that the locus 23 is comprised of a group of pixels that are irradiated by scattered laser beam light during a certain fixed time span (i.e., over a period of 100 ns or 200 ns). That is, Ito teaches that data processor 15, determines as a group, pixels which are irradiated by scattered laser beam light during a fixed time span.

In contrast, the apparatus recited in claim 1, determines as a group, pixels which are simultaneously irradiated by laser beam light scattered by a particle. Therefore, Ito groups pixels together in a completely different manner than the area detector recited in claim 1. Indeed, since Ito discloses grouping pixels together which are irradiated during a fixed time span, Ito cannot possibly disclose (or suggest) grouping pixels together which are simultaneously irradiated.

Consequently, Applicants respectfully submit that independent claim 1 is not anticipated by (i.e. is not readable on) Ito for *at least* these reasons. Further, Applicants respectfully submit that the dependent claims 2-3, 5-7, 9-13, 17, 23, 24, and 26-29 are allowable *at least* by virtue of their dependency on claim 1. Thus, Applicants respectfully request that the Examiner withdraw this rejection.

B. Independent Claim 32

Independent claim 32 requires (among other things):

determining pixels that are simultaneously irradiated by said laser beam scattered by one of said particles, and that are located adjacent to each other... as a group.

In view of the similarity between this requirement and the requirement discussed above with respect to independent claim 1, Applicants respectfully submit that the foregoing arguments as to the patentability of independent claim 1 apply at least by analogy to claim 32. As such, it is respectfully submitted that claim 32 is patentably distinguishable over Ito for *at least* these reasons. Further, Applicants submit that the dependent claims 33-34, 37-39, 41-42, 51, and 55-57 are allowable *at least* by virtue of their dependency on claim 32. Thus, the allowance of these claims is respectfully solicited of the Examiner.

C. Independent Claim 103

Independent claim 103 requires (among other things):

an area detector which determines pixels that are simultaneously irradiated by said laser beam scattered by one of said particles, and that are located adjacent to each other... as a group.

In view of the similarity between this requirement and the requirement discussed above with respect to independent claim 1, Applicants respectfully submit that the foregoing arguments as to the patentability of independent claim 1 apply at least by analogy to claim 103. As such, it is respectfully submitted that claim 103 is patentably distinguishable over Ito for *at least* these reasons. Further, Applicants submit that the dependent claims 103-105, 107, 109-112, 114, and

116-118 are allowable *at least* by virtue of their dependency on claim 103. Thus, the allowance of these claims is respectfully solicited of the Examiner.

D. Independent Claim 119

Independent claim 119 requires (among other things):

determining pixels that are simultaneously irradiated by said laser beam scattered by one of said particles, and that are located adjacent to each other... as a group.

In view of the similarity between this requirement and the requirement discussed above with respect to independent claim 1, Applicants respectfully submit that the foregoing arguments as to the patentability of independent claim 1 apply at least by analogy to claim 119. As such, it is respectfully submitted that claim 119 is patentably distinguishable over Ito for *at least* these reasons. Further, Applicants submit that the dependent claims 120-121, 124-126, and 128-129 are allowable *at least* by virtue of their dependency on claim 119. Thus, the allowance of these claims is respectfully solicited of the Examiner.

IV. Claim Rejections 35 U.S.C. § 103

First, the Examiner has rejected claims 30 and 58 under 35 U.S.C. § 103(a) as being unpatentable over Ito. Second, the Examiner has rejected claims 15, 18-21, 43, 47-50, 113, 115, and 127 under 35 U.S.C. § 103(a) as being unpatentable over Ito, and further in view of U.S. Patent No. 5,929,980 to Yamaguchi *et al.* (hereinafter "Yamaguchi"). Third, the Examiner has rejected claims 4, 25, 35, 53, 106, and 122 under 35 U.S.C. § 103(a) as being unpatentable over Ito, and further in view of Japanese Patent Publication No. 10-010036 to Uesugi *et al.* (hereinafter "Uesugi"). Fourth, the Examiner has rejected claim 45 under 35 U.S.C. § 103(a) as

being unpatentable over Ito and Yamaguchi, and further in view of Uesugi. Fifth, the Examiner has rejected claims 8, 14, 31, and 108 under 35 U.S.C. § 103(a) as being unpatentable over Ito, and further in view of U.S. Patent No. 6,368,567 to Comita *et al.* (hereinafter “Comita”). Sixth, the Examiner has rejected claims 22 and 46 under 35 U.S.C. § 103(a) as being unpatentable over Ito and Yamaguchi, and further in view of Comita. Finally, the Examiner has rejected claims 36, 54, and 123 under 35 U.S.C. § 103(a) as being unpatentable over Ito and Uesugi, in further view of Comita. These rejections are respectfully traversed for *at least* the reasons stated below.

A. Independent Claim 1

Applicants respectfully submit that neither Ito, Yamaguchi, Uesugi, Comita, nor any combination thereof, teaches or suggests all the limitations of independent claim 1. As explained above with respect to claim 1, Ito fails to disclose or suggest an area detector which determines pixels that are simultaneously irradiated by said laser beam scattered by one of said particles, and that are located adjacent to each other, as a group. Further, neither Yamaguchi, Uesugi, nor Comita teach or suggest this feature. Consequently, Ito, Yamaguchi, Uesugi, Comita, and any combination thereof, are incapable of teaching or suggesting the novel recitations of independent claim 1. Accordingly, claim 1 would not have been obvious from Ito, Yamaguchi, Uesugi, Comita, and any combination thereof, for *at least* this reason. As a result, Applicants request that the Examiner withdraw this rejection.

B. Dependent Claims 4, 8, 14-15, 18-22, 25, and 30-31

Claims 4, 8, 14-15, 18-22, 25, and 30-31 incorporate all the novel and non-obvious features of their base claim 1. As explained above, Ito, Yamaguchi, Uesugi, Comita, and any combination thereof, are incapable of teaching or suggesting the novel recitations of base claim 1

and, therefore, dependent claims 4, 8, 14-15, 18-22, 25, and 30-31 would not have been obvious from the cited references for *at least* this reason.

C. Independent Claim 32

Applicants respectfully submit that neither Ito, Yamaguchi, Uesugi, Comita, nor any combination thereof, teaches or suggests all the limitations of independent claim 32. As explained above with respect to claim 32, Ito fails to disclose or suggest determining pixels that are simultaneously irradiated by said laser beam scattered by one of said particles, and that are located adjacent to each other, as a group. Further, neither Yamaguchi, Uesugi, nor Comita teach or suggest this feature. Consequently, Ito, Yamaguchi, Uesugi, Comita, and any combination thereof, are incapable of teaching or suggesting the novel recitations of independent claim 32. Accordingly, claim 32 would not have been obvious from Ito, Yamaguchi, Uesugi, Comita, and any combination thereof, for *at least* this reason. As a result, Applicants request that the Examiner withdraw this rejection.

D. Dependent Claims 35-36, 43, 45-50, 53-54, and 58

Claims 35-36, 43, 45-50, 53-54, and 58 incorporate all the novel and non-obvious features of their base claim 32. As explained above, Ito, Yamaguchi, Uesugi, Comita, and any combination thereof, are incapable of teaching or suggesting the novel recitations of base claim 32 and, therefore, dependent claims 35-36, 43, 45-50, 53-54, and 58 would not have been obvious from the cited references for *at least* this reason. Thus, Applicants request that the Examiner withdraw this rejection.

E. Independent Claim 103

Applicants respectfully submit that neither Ito, Yamaguchi, Uesugi, Comita, nor any combination thereof, teaches or suggests all the limitations of independent claim 103. As explained above with respect to claim 103, Ito fails to disclose or suggest an area detector which determines pixels that are simultaneously irradiated by said laser beam scattered by one of said particles, and that are located adjacent to each other, as a group. Further, neither Yamaguchi, Uesugi, nor Comita teach or suggest this feature. Consequently, Ito, Yamaguchi, Uesugi, Comita, and any combination thereof, are incapable of teaching or suggesting the novel recitations of independent claim 103. Accordingly, claim 103 would not have been obvious from Ito, Yamaguchi, Uesugi, Comita, and any combination thereof, for *at least* this reason. Therefore, Applicants request that the Examiner withdraw this rejection.

F. Dependent Claims 106, 108, 113, and 115

Claims 106, 108, 113, and 115 incorporate all the novel and non-obvious features of their base claim 103. As explained above, Ito, Yamaguchi, Uesugi, Comita, and any combination thereof, are incapable of teaching or suggesting the novel recitations of base claim 103 and, therefore, dependent claims 106, 108, 113, and 115 would not have been obvious from the cited references for *at least* this reason. Consequently, Applicants request that the Examiner withdraw this rejection.

G. Independent Claim 119

Applicants respectfully submit that neither Ito, Yamaguchi, Uesugi, Comita, nor any combination thereof, teaches or suggests all the limitations of independent claim 119. As explained above with respect to claim 119, Ito fails to disclose or suggest determining pixels that are simultaneously irradiated by said laser beam scattered by one of said particles, and that are located adjacent to each other, as a group. Further, neither Yamaguchi, Uesugi, nor Comita teach or suggest this feature. Consequently, Ito, Yamaguchi, Uesugi, Comita, and any combination thereof, are incapable of teaching or suggesting the novel recitations of independent claim 119. Accordingly, claim 119 would not have been obvious from Ito, Yamaguchi, Uesugi, Comita, and any combination thereof, for *at least* this reason. Hence, Applicants request that the Examiner withdraw this rejection.

H. Dependent Claims 122-123 and 127

Claims 122-123 and 127 incorporate all the novel and non-obvious features of their base claim 119. As explained above, Ito, Yamaguchi, Uesugi, Comita, and any combination thereof, are incapable of teaching or suggesting the novel recitations of base claim 119 and, therefore, dependent claims 122-123 and 127 would not have been obvious from the cited references for *at least* this reason. Thus, Applicants request that the Examiner withdraw this rejection.

Amendment Under 37 C.F.R. § 1.111
U.S. Serial No. 09/656,713

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IV. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.


Respectfully submitted,

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